PSY27

A HEALTH ECONOMIC EVALUATION OF THE SWITCH OF ERYTHROPOIESIS-STIMULATING AGENTS (ESAS) IN PATIENTS WITH RENAL FAILURE UNDERGOING HEMODIALYSIS

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OBJECTIVES: Different erythropoiesis-stimulating agents (ESAs) are used to correct anaemia in hemodialyzed patients. There is conflicting evidence on whether the dose needed to obtain the same hemoglobin level differs between ESAs. This study assessed the changes in ESA dose and the differences in cost of treatment when patients were switched from epoetin beta (EB) to darbepoetin alfa (DA). **METHODS:** A monocentre retrospective chart review was performed. All hemodialysis patients switched from EB to DA during the first week of January 2008. The dose conversion from EB to used was 200 IU:1 µg based on the European DA label. In patients dialyzed for at least 9 months at conversion, ESA dose and hemoglobin level were collected 3 months prior (baseline) to 12 months after conversion. The ratio "average weekly ESA dose/average weekly hemoglobin level", the average weekly ESA-drug-related cost per patient (Belgian public payer's perspective), the average weekly dose of ESA and the average weekly hemoglobin were compared for the baseline period vs. weeks 14–26 and 40–52 post-switch using the Wilcoxon signed rank test. **RESULTS:** Out of 144 screened patients, 96 were eligible and survived without renal transplantation until week 52. The ratio "average weekly ESA dose/average weekly hemoglobin level" decreased from 611 IU/g/dL to respectively 359 IU/g/dL and 348 IU/g/dL in the defined post-switch periods ($P < 0.0001$), without any change in average hemoglobin. a substantial reduction in drug cost was observed after switch (from €66.8 to €53.6 and €52.8/week). The average weekly ESA dose decreased from baseline to post-switch from 7230 IU to 4203 IU and 4137 IU ($P < 0.0001$). Both ESA dosing and hemoglobin were stabilised after a 13-weeks titration period post-switch. **CONCLUSIONS:** Switching patients from EB to DA resulted in a significant decrease of the ESA dose needed to obtain the same hemoglobin level. This significant decrease in dosage resulted in a substantial decrease in drug costs.

PSY28

COST OF INHIBITOR DEVELOPMENT IN PATIENTS WITH SEVERE HEMOPHILIA A IN SPAIN

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OBJECTIVES: Risk and consequences of inhibitor (antibodies) development in patients with hemophilia are the main safety issue in patients treated with recombinant drugs, due to its impact on health and quality of patient's life. The objective of this study is to quantify the economical impact of treating A-hemophiliac patients developing inhibitors against factor VIII (FVIII) for the National Health System (NHS) in Spain. **METHODS:** An economical model was built as a decision tree allowing assigning the resource use to handle inhibitor development and its associated cost in different patient groups according to its age, treatment pattern and response profile. Data was obtained from a literature review and validated by an experts' panel. a one-way sensitivity analysis was performed to check for results robustness. **RESULTS:** The mean annual cost per patient suffering from severe hemophilia a developing inhibitors against FVIII in Spain was €567,518 (EUR 2009), 99% due to pharmacological costs. Results show an important variability, from €166,845 to €2,408,486 depending on the type of patient: its age related to its weight and adequate treatment dosage, its inhibitors' titer (low or high-titer) and its treatment (on demand or to eradicate inhibitors). The number of bleeding episodes was the variable with the greatest impact on results. According to population data and illness incidence, a 5% increase on the risk of inhibitor development implies a new case per year in Spanish population and, therefore, an expenditure of more than half a million Euro for the NHS. **CONCLUSIONS:** This study analyzes for the first time the cost of inhibitors' development among patients with severe hemophilia a treated with recombinant FVIII from the perspective of the Spanish NHS. Results show that treatments to overcome this safety issue represent an important economical burden, so that strategies preventing from inhibitor development should be implemented in this population.

PSY29

DARBEPOETIN ALFA VERSUS EPOETIN ALFA FOR TREATMENT OF CHEMOTHERAPY-INDUCED ANEMIA: A HEALTH ECONOMIC EVALUATION

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OBJECTIVES: Erythropoiesis-stimulating proteins (ESPs) are used in the treatment of chemotherapy-induced anemia (CIA) with the aim of improving quality of life and reducing the need for blood transfusions. a retrospective analysis based on data from a single institution compared costs and effectiveness of two ESPs, epoetin alfa and darbepoetin alfa, in consecutively treated patients over a 2-year period. **METHODS:** Data from all patients treated for CIA between January 1, 2007 and December 31, 2008 with one of the two ESPs—epoetin alfa- (40 000 IU once weekly) or darbepoetin alfa- (500 µg every 3 weeks)—were analyzed. Total and per patient costs and costs per clinical response (hemoglobin ≥ 11 g/dL) were calculated, based on drug acquisition costs for the ESPs. **RESULTS:** A total of 161 patients were treated with epoetin alfa (799 doses; mean 4.96 doses per patient) and 52 with darbepoetin alfa (94 doses; mean 1.81 doses per patient). Total and per-patient costs were 8,682,226 CZK (€331,003.66) and 54,461 CZK (€2076.29) for epoetin alfa versus 2,578,984 CZK (€98,321.92) and 49,596 CZK (€1,890.81) for darbepoetin alfa. The response rate was higher (58% vs. 47%, not statistically significant), and the mean cost per treatment response was lower, with darbepoetin alfa, at 85,966 CZK (€3,277.39) versus 115,763 CZK (€4,413.38) for epoetin alfa. **CONCLUSIONS:** Our results indicate that darbepoetin alfa is associated with lower drug acquisition costs than epoetin alfa, as well as a lower cost per treatment response, for treatment of CIA.

PSY30

ONE-YEAR-LONG TREATMENT OF FAILED BACK SURGERY SYNDROME WITH SPINAL CORD STIMULATION: COSTS AND BENEFITS IN THE ITALIAN CONTEXT (PRECISE STUDY)

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OBJECTIVES: Spinal Cord Stimulation (SCS) is considered to be an effective therapy for patients affected by Failed Back Surgery Syndrome refractory to conventional medical management (CMM). PRECISE Study aims to evaluate the costs and clinical benefits of SCS (plus CMM) versus CMM alone on a 2-year horizon in Italy. Here 12-months results are reported. **METHODS:** PRECISE Study is an observational, pre-post, multi-centre study. Eighty patients were enrolled to be screened for SCS and, if responders, to be implanted. Health care and non-health care resources use and costs, clinical outcomes and HR-QoL data were collected before and after the implantation. The 12-months data was analyzed and compared to pre-implantation results. Mean monthly resources use, costed in euros 2008, was evaluated according to three perspectives: patient, National Healthcare System (NHS), Society. **RESULTS:** Seventy-two (90%) patients responded to screening and were implanted. Out of them, 62 (mean age 57; 61% female) completed the 12-months follow-up; ten patients discontinued the therapy for: therapy failure (10%), complications/technical issues (60%), other reasons (30%). SCS significantly reduced pain, and improved function and HR-QoL: mean pain intensity decreased from 7.4 ± 1.3 to 4.4 ± 2.5 (pain Numerical Rating Scale), 53 patients (85%) experienced an improvement in function measured with Oswestry Disability Index and EQ-VAS increased from 37 to 59. The mean utility score was 0.49 (baseline: 011). Patient's monthly out-of-pocket expenditure halved from €161.45 to €80.04. Excluding upfront costs (screening and implantation), total NHS monthly per-patient expenditure diminished from €163.77 to €100.17, Society monthly per-patient expenditure from €461.89 to €253.27. Including them, NHS and Societal monthly costs per-patient were €1,318.30 and €1,471.40, respectively. **CONCLUSIONS:** SCS with CMM is more effective than CMM alone in controlling pain and improving HR-QoL. Excluding the upfront costs related to the implantation, SCS allows a reduction in resources consumption and productivity losses from all the possible perspectives of analysis (patient, NHS, Society).

PSY31

POSACONAZOLE VS. FLUCONAZOLE OR ITRACONAZOLE FOR THE PREVENTION OF FUNGAL INFECTIONS IN CANCER PATIENTS WITH PROLONGED NEUTROPENIA: A COST-EFFECTIVENESS ANALYSIS

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OBJECTIVES: Invasive fungal infections (IFI) remain a clinical concern in hematological cancer patients with prolonged neutropenia because they are major cause of morbidity and mortality. As a result, the guidelines of the International Society of Infectious Diseases recommend adequate prophylaxis while the patient remains neutropenic. In this study, a cost-effectiveness analysis was conducted to measure the economic value of posaconazole as an alternative to fluconazole or itraconazole when used to prevent IFI in this patent population. **METHODS:** A decision analysis model was developed using clinical and economic data from randomized comparative trials, the economic literature and from expert opinion. The data were then used to estimate the incremental cost per life-year saved with oral posaconazole prophylaxis relative to fluconazole or itraconazole from the Canadian provincial health care system perspective. The base-case results were then tested with an extensive sensitivity analysis which evaluated extremes in the incidence of IFI as well as variations in their cost of management. **RESULTS:** The base-case findings revealed that prophylaxis with posaconazole provides at least comparable efficacy and an overall cost savings of approximately $4260 per patient. Despite variations in the base-case parameters, the sensitivity analysis suggested stability in the primary findings. Posaconazole was associated with an overall cost savings (range = $1765 to $5118) and at least comparable benefit. Optimal cost-effectiveness was obtained when the drug was able to avoid more invasive *Aspergillus* infections. **CONCLUSIONS:** Prophylaxis with posaconazole in neutropenic hematological cancer patients is not only cost-effective but also cost saving. The economic benefits were due to the drug's ability to reduce the incidence of high cost fungal infections, particularly Aspergillus species.